

SOME SMALL FAMILIES OF THE *LEPIDOPTERA* WHICH ARE NOT INCLUDED IN THE KEY TO THE FAMILIES IN THE CATALOGUE OF *LEPIDOPTERA PHALAEENAE*, A LIST OF THE FAMILIES AND SUBFAMILIES OF THE *LEPIDOPTERA* WITH THEIR TYPES AND A KEY TO THE FAMILIES.

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\* Not in Brit. Mus.; † type examined.

FAMILY *EUCOCYTIADA*E.

*Cocytianae* Roths., *Lep. Snow Mts., N. Guinea*, p. 57 (1915).

Differs from the *Callimorphidae* in having the antennae dilated towards extremity and the eyes hairy.

*Callimorpha* Latr. 1809, type *hera*, is the oldest genus in the latter family, and *Hypsa* Hübn. 1827 is a section of *Asota* Hübn. which has priority.

Palpi with the 3rd joint very long and dilated at extremity ; antennae with the dilation ending in a pointed hook ; wings with the cell very short, the forewing with veins 7, 8, 9 stalked, 10 from cell . . . . . *Rhoptrophalaena*

Palpi with the 3rd joint very short and thickly scaled ; antennae with the dilation not ending in a pointed hook ; wings with the cell long, the forewing with vein 9 from 10 anastomosing with 8 to form the aureole . . . . . *Eucocytia*

GENUS *Rhoptrophalaena* n.n.

*Cocytia* Boisd., *Mon. Zyg.* p. 24 (1829), type *durvilli*, nec *Cocytius* Hübn., *Verz.* p. 140 (1827).

(1) \* *Rhoptrophalaena aurantiaca*.

*Cocytia durvillei, aurantiaca* Roths., *Nov. Zool.* iv. p. 509 (1897).

**Timor Laut.**

(2) *Rhoptrophalaena durvilli*.

*Cocytia durvilli* Boisd., *Mon. Zyg.* p. 22. pl. 1. f. 1 (1829).

† *Cocytia veitchii* Butl., *Trans. Ent. Soc.* 1884. p. 352 (ab.); *Waterh. Aid.* ii. pl. 45. f. 1.

**Batchian, N. Guinea, Kei Is., Louisiade Is., New Hebrides.**

(3) *Rhoptrophalaena chlorosoma*.

† *Cocytia chlorosoma* Butl., *A.M.N.H.* (4) xv. p. 144 (1875).

*Cocytia ribbaei* Druce, *Ent. Mo. Mag.* xxi. p. 156 (1884).

**N. Guinea, Aru Is., Kei Is.**

GENUS *Eucocytia*.

*Eucocytia* Roths., *Nov. Zool.* xii. p. 474 (1905) . . . . . Type. *meccki*

\* *Eucocytia meeci*.

† *Eucocytia mecki* Roths., *Nov. Zool.* xii. p. 474 (1905); id. *Lep. Snow Mts., N. Guinea*, p. 57. pl. 1. f. 9.

Br. and Germ. N. Guinea.

FAMILY *DIOPTIDAE*.

*Dioptis* Hübn. *Verz.* p. 174 (1827), type *cyma*.

Differs in the key from the *Geometridae* in the abdomen having the basal stigmata dilated into vesicles.

FAMILY *LEMONIADAЕ*.

*Lemonia* Hübn., *Verz.* p. 187 (1827), type *tarazaci*.

Differs in the key from the *Brahmaeidae* in having the proboscis absent.

FAMILY *SEMATURIDAE* Guen.

Differs in the key from the *Geometridae* in having the antennae more or less dilated towards extremity and the eyes hairy, whilst in the *Geometridae* the very few genera which have the antennae dilated always have the eyes naked.

It is closely related to the *Uraniadae*, but has the eyes hairy and overhung by long cilia and the forewing with veins 6, 7 stalked with 8 and 10, 9 absent, instead of veins 6, 7 being remote from 8, and the eyes smooth.

KEY TO THE GENERA.

- A. Frenulum aborted and not functional; hindwing with anal lobe produced to a long spatulate tail at veins 5, 4, veins 2, 3, 4 stalked; palpi with the 3rd joint long; tibiae spined . . . . . *Sematura*
- B. Frenulum fully developed; hindwing with vein 2 from near angle of cell, 3, 4 from angle or very shortly stalked.
  - a. Hindwing with anal lobe produced to a short spatulate tail at veins 5, 4; palpi with the 3rd joint moderate; tibiae not spined . . . . . *Coronidia*
  - b. Hindwing without anal lobe, the termen produced to a point at vein 4; palpi with the 3rd joint moderate; tibiae spined . . . . . *Lonchotura*
  - c. Hindwing with the termen evenly curved and without anal lobe; palpi with the 3rd joint short; tibiae spined . . . . . *Anurapteryx*

GENUS *Sematura*.

*Mania* Hübn., *Verz.* p. 290 (1827); nec Treit. *Lep.* 1825 . . . . . Type. *lunus*  
*Sematura* Dalm., *Vel. Handl.* 1824. p. 407 (nondescr.); Guen., *Ur. & Phal.* i. p. 17 (1857) . . . . . *lunus*  
*Manididia* Westw., *Trans. Zool. Soc.* x. p. 527 (1879) . . . . . *lunus*

(1) *Sematura lunus*.

- Phalaenae lunus* Linn., *Syst. Nat.* ed. x. p. 508 (1758) ♂; Clerck, *Icones*, pl. 52. ff. 3. 4; Cram., *Pap. Exot.* pl. 200. f. A.  
*Lars Heroica empedoclaria* Hübn., *Samml. ex. Schmelt.* i. pl. 201 (? 1819) ♀.  
*Mania caudilunaria* Hübn., *Verz.* p. 290 (1827).  
 † *Sematura actæm* Feld., *Reis. Nov.* pl. 121. f. 5 (1875) ♂.

**Mexico, Honduras, Guatemala, Costa Rica, Panama, Trinidad, Br. Guiana, Brazil, Amazons.**

(2) *Sematura empedocles*.

- Papilio empedocles* Cram., *Pap. Exot.* iii. pl. 199. ff. A. B. (1779) ♀.  
*Sematura selene* Guen., *Ur. & Phal.* i. p. 18 (1857) ♂.

**Mexico, Honduras, Guatemala, Nicaragua, Costa Rica, Panama, Trinidad, Colombia, Venezuela, Br. Guiana, Brazil, Amazons.**

(3) \**Sematura diana*.

- Sematura diana* Guen., *Ur. & Phal.* i. p. 18. pl. i. f. 4 (1857) ♂.

**Brazil, Rio Grande do Sul, ♂ ♀ in Coll. Rothschild; the subterminal line of the forewing is slightly sinuous but incurved and with a minute pale spot on it below vein 4.**

(4) *Sematura aegisthus*.

- Papilio lunus* Cram., *Pap. Exot.* iii. pl. 200. ff. B. C. (1779) nec Linn.  
*Papilio aegisthus* Fabr., *Spec. Ind.* ii. p. 20 (1781).  
*Mania lunigeraria* Hübn., *Verz.* p. 290 (1827).  
 † *Nyctalemon excavatus* Wlk., i. p. 9 (1854).  
*Sematura phoebe* Guen., *Ur. & Phal.* i. p. 19 (1857).

**Jamaica, Haiti.**

GENUS *Coronidia*.

- Coronis* Latr., *Fam. Not.* p. 470 (1825), French, no type, nondescr., nec Latr. *Crust.* 1824.  
*Coronis* Latr., Cuvier, *Règne Anim.* v. p. 389 (1829), no type, nec Hübn. *Verz.* p. 265 (1827).  
*Larunda* Hübn., *Verz.* p. 289 (1827), nec Leach. *Crust.* 1815 . . . . . *oritheca*  
*Coronis* Blanchard, Cuvier, *Règne Anim. Ins.* p. 234. pl. 145. f. 2 (1849) . . . . . *evenus*  
*Coronis* Guen., *Ur. & Phal.* i. p. 20 (1857) . . . . . *oritheca*  
*Coronidia* Westw., *Tr. Zool. Soc.* x. p. 528 (1879); Kirby, *Cat. Lep. Hist.* p. 18 . . . . . *oritheca*  
*Homidia* Strand, *Deutsch. Ent. Zeit.* 1911. p. 635, nec Börner, *Colemb.* 1906 . . . . . *canace*

Prof. Poulton has kindly brought me all the types and other material from the Hope Museum at Oxford to examine, and Lord Rothschild and Mr. J. J. Joicey all their material.

Sect. I. (*Coronidia*). Antennae of male with minute serrations ending in bristles, of female with short branches; forewing of male on upperside with tuft of long upturned hair from inner margin near base.

(1) \* *Coronidia hyphasis*.

- Coronis hyphasis* Hopff., *Neue Schmelt.* ii. p. 3. pl. iii. ff. 2. 3 (1856) ♀.

The male differs from the female in having the blue band of the hindwing expanding towards the apex as in the males of all this group, and with less white on its inner edge towards costa.

**Mexico, Costa Rica, Panama, Ecuador.**

(2) *Coronidia erecthea*.

† *Coronidia erecthea* Westw., *Trans. Zool. Soc.* x. p. 530. pl. 87. f. 4 (1879) ♂.

The female differs from the male in having the blue band of the hindwing not expanding towards the costa.

**Mexico, Brazil.**

(3) \* *Coronidia difficilis*.

*Coronidia difficilis* Strand, *Deutsch. Ent. Zeit.* 1911. p. 639. ♂ ♀.

**Ecuador, Peru.**

(4) *Coronidia orithea*.

*Phalaena orithea* Stoll, *Cram. Pap. Exot.* iii. p. 121. pl. 262. ff. c. d. (1778) ♂.

*Coronis d'Urville* Latr., Cuvier, *Règne Anim.* (ed. ii.) v. p. 389 (1829). and iii. p. 440. pl. 20. f. 4 (1830) French.

*Coronis durvillii* Guen., *Ur. & Phal.* i. p. 21 (1857).

*Coronis hysudrus* Hopff., *Neue Schmett.* ii. p. 4. pl. iii. ff. 4. 5 (1857) ♀.

† *Coronidia boreada* Westw., *Trans. Zool. Soc.* x. p. 531. pl. 87. f. 5 (1879) ♀.

**Mexico, Guatemala, Costa Rica, Panama, Colombia, Fr. Guinea, Surinam, Brazil, Paraguay, Ecuador, Bolivia.**

Sect. II. (*Hamidia*). Antennae in both sexes with minute serrations ending in bristles; forewing of male without tuft of hair from inner margin.

A. Forewing with the termen evenly curved.

a. Hindwing with the tail of moderate length and rounded at extremity.

(5) \* *Coronidia tangens*.

*Homidia tangens* Strand, *Deutsch. Ent. Zeit.* 1911. p. 645. ♂.

**Ecuador, ♂ in Coll. Rothschild.**

(6) \* *Coronidia traducta*.

*Homidia traducta* Strand, *Deutsch. Ent. Zeit.* 1911. p. 646. ♀.

The male differs from the female in the forewing having the postmedial band suffused with red-brown, its outer edge whiter, its inner edge less dentate at the veins, ending at tornus instead of just before it, the antemedial line and medial line not edged with blue-white scales; the underside of hindwing with the post-medial pink band narrowing between veins 4 and 2 and the subterminal spots between veins 4 and 2 bright pink.

**Bolivia, Peru; ♂ ♀ in Coll. Rothschild, ♀ in Coll. Joicey.**

(7) \* *Coronidia vestwoodi*.

*Coronis westwoodi* Oberth., *Et. Ent.* vi. p. 28. pl. vi. f. 2 (1881) ♂.

**Colombia.**

(8) † *Coronidia leucosticta* n. sp.

♂. Head, thorax, and abdomen dark brown mixed with some whitish; antennae whitish ringed with dark brown; palpi dark brown, the 1st joint with white mark at extremity, the 2nd with white streak at sides, the 3rd with the tip white; pectus, legs, and ventral surface of abdomen white suffused with

red-brown, the tibiae and tarsi darker brown above. Forewing dark brown; subbasal line grey, double on costal area, the outer line oblique and slightly sinuous, at inner margin joining the antemedial line, which is double, grey, oblique, wavy; median band brownish grey, dark at costa, defined at sides by brown and whitish lines, oblique, slightly angled outwards at the veins; a large black discoidal lunule defined on inner side by a grey-brown line; three wavy grey-brown lines beyond the cell; postmedial line grey-brown, with dark brown lines near its inner and outer edges, oblique, wavy, angled inwards to white points on the veins on inner side and defined on outer side by curved white striae in the interspaces, excurved to above vein 4, then incurved and ending at tornus, three wavy black-brown lines beyond it forming bars at costa followed by two other bars; a brownish white subterminal line, slightly wavy below vein 4 and ending at vein 2; a terminal black-brown lunule below vein 7, three rather oblique bars to vein 2, defined on inner side by brownish white. Hindwing reddish brown, the terminal area dark brown; a crimson postmedial band with wavy edges from costa to vein 5; three wavy grey lines on terminal area; the upper part of tail white at extremity with an elliptical black patch with minute white spot on it before it, the lower part with curved white line before its extremity preceded by a minute black and white spot; black lunules on termen between veins 4 and 2 defined on inner side by brownish white. Under-side of forewing brownish grey to the postmedial band, the terminal area dark brown striated with rufous on costal area, then with whitish to vein 5, an elliptical black discoidal spot, the postmedial band white defined on innerside by diffused dark brown, excurved and wavy to vein 4, then oblique and sinuous to tornus; a sinuous white subterminal line to vein 2; hindwing brownish grey to the postmedial band, an oblique blackish discoidal spot, the whole terminal area bright pink defined on its inner side, which is wavy, by a black-brown band and extending to inner margin, the terminal area with three wavy black lines and a striga before termen above vein 4.

**Peru**, Huancabamba, 1 ♂ type, Carabaya, San Domingo (Ockenden), 1 ♂ in Coll. Rothschild. *Exp.* 70 mill.

(9) *Coronidia rosina*.

† *Coronis rosina* Feld., *Reis. Nov.* pl. 121. ff. 3. 4 (1874) ♂.

† *Coronidia columbiana* Westw., *Trans. Zool. Soc.* x. p. 534. pl. 88. f. 4 (1879) ♀.

**Colombia, Venezuela.**

(10) *Coronidia egina*.

*Coronis egina* Blanch., Cuvier, *Règne Anim. Ins.* pl. 145. f. 4 (1849) ♂; Guen., *Ur. & Phal.* i. p. 21. pl. 1. f. 3.

† *Coronidia nicaraguana* Westw., *Trans. Zool. Soc.* x. p. 534. pl. 88. f. 3 (1879) ♂.

The female differs from the male in the forewing having the subbasal line white and straight, the antemedial band with white inner edge, slightly excurved below costa, then oblique and straight, the postmedial band with its outer half white and only slightly incurved below vein 5; the hindwing with the red band broader, its outer edge wavy, the part below vein 3 brown slightly edged with whitish on inner side and strongly on outer side, the apical part of termen white, then a narrow white band before termen to vein 5. It is almost exactly

like the same sex of *C. canace*, but the terminal half of the hindwing is strongly suffused with bright pink and there is no line through the postmedial band.

**Mexico, Guatemala, Nicaragua, Costa Rica, Panama, ? West Indies, Colombia, Ecuador, Peru.**

(11) *Coronidia canace*.

*Coronis canace* Hopff., *Neue Schmett.* ii. p. 4. pl. 3. f. 6 (1856) ♂.

† *Coronidia paulina* Westw., *Trans. Zool. Soc.* x. p. 533. pl. 87. ff. 6. 7 (1897) ♂.

† *Coronidia aeola* Westw., *Trans. Zool. Soc.* x. p. 535. pl. 88. ff. 1. 2 (1879) ♀.

**Panama, Colombia, Venezuela, Brazil, Ecuador, Bolivia, Peru.**

(12) *Coronidia gueneei*.

† *Coronidia gueneei* Druce, *Biol. Centr. Am. Het.* ii. p. 6 (1891) ♂.

**Panama, Colombia, Br. Guiana.**

(13) *Coronidia restincta*.

*Homidia restincta* Strand, *Deutsch. Ent. Zeit.* 1911. p. 646. ♂ ♀.

**Colombia, Ecuador, Peru.**

(14) *Coronidia subpicta*.

† *Coronis subpicta* Wlk., l. p. 39 (1854) ♂; Butl., *Ill. Het. B.M.* 1. p. 59. pl. 2. f. 2; Oberth., *Ét. Lep.* vi. p. 29. pl. 6. f. 3.

*Coronis echenais* Hopff., *Neue Schmett.* ii. p. 5. pl. 4. f. 1 (1856) ♂.

† *Coronidia grenadina* Westw., *Trans. Zool. Soc.* x. p. 536. pl. 88. f. 5 (1879) ♂.

† *Coronidia biblina* Westw., *Trans. Zool. Soc.* x. p. 537. pl. 88. f. 7 (1879) ♀.

**Mexico, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Peru.**

(15) *Coronidia leachi*.

*Agarista leachi* Latr., *Enc. Méth.* ix. p. 803 (1823) ♂; Guér., *Icon. R. Anim. Ins.* p. 493. pl. 83. f. 3; Boisd., *Sp. Gen.* i. pl. 14. f. 2; Guen., *Ur. & Phal.* i. p. 22. pl. 1. f. 2; Westw., *Trans. Zool. Soc.* x. p. 540. pl. 88. f. 11.

*Coronis jayet* Blanch., Cuvier, *Règne Anim. Ins.* pl. 145. f. 3 (1849) ♀; Westw., *Trans. Zool. Soc.* x. p. 537. pl. 88. f. 6.

In Coll. Rothschild there are two males from Mexico, Guerrero, belonging to a ? androgynamorphous form of this species; the hindwing with obsolescent sinuous orange band on upperside from costa to vein 5 much as in typical *C. subpicta* but with the white apical patch of *C. leachi*.

**Mexico, Guatemala, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Brazil, Ecuador, Peru.**

(16) *Coronidia briseis*.

† *Coronidia briseis* Westw., *Trans. Zool. Soc.* x. p. 538. pl. 88. f. 9 (1879) ♀.

*Homidia leucothysanota* Strand, *Deutsch. Ent. Zeit.* 1911. p. 643 ♂.

**Venezuela, Bolivia.**

(17) *Coronidia evenus*.

*Coronis evenus* Blanch., Cuvier, *Règne Anim. Ins.* pl. 145. f. 2 (1849) ♂.

*Coronis ducatrix* Schauf., *Nung. Otiosus*, i. p. 12 (1870) ♀.

*Homidia subevenus* Strand, *Deutsch. Ent. Zeit.* 1911. p. 645. ♂.

The male usually has only a few white scales in the cilia of the hindwing towards apex, but sometimes has the cilia wholly white towards apex; it differs from the male of *C. briseis* in the dark medial area of the forewing contrasting much less strongly with the paler basal and postmedial areas, its edges more irregular and waved, the subterminal line with a strong dark shade before it; the hindwing with the inner half of terminal area more variegated with grey.

The female, **Peru**, Carabaya, La Oroya (Oekenden), in Coll. Rothschild, has the head and thorax purplish red-brown and greyish, the abdomen grey-brown; forewing red-brown and grey mixed with some purple-red except on terminal area, a whitish antemedial band suffused with brown, oblique and narrowing towards inner margin, its edges irregularly waved, a creamy white postmedial band irrorated with brown on its inner side except towards costa, rather oblique towards costa, then erect, its edges waved; hindwing grey-brown with broad orange-yellow postmedial band slightly excurved below discal fold and ending at vein 2, its edges waved, the inner half of terminal area variegated with purple-red; underside grey-brown, the forewing with the whitish postmedial band as above, the hindwing with the band creamy yellow tinged with red and extending to the inner margin, a creamy white shade from vein 3 before termen to tornus.

**Colombia, Venezuela, Ecuador, Bolivia, Peru.**

b. Hindwing with the tail very short, rounded at extremity; forewing short and broad with the apex rounded.

(18) \*† *Coronidia brachyura* n. sp.

♂. Head, thorax, and abdomen dark red-brown; frons with white lines at sides; palpi black-brown, the 2nd joint with white line in front, the joints ringed with white at extremities; pectus and ventral surface of abdomen whitish suffused with red-brown; legs suffused with dark brown, the tibiae at extremities and tarsi ringed with white. Forewing very dark reddish brown, the costa with obscure blackish spots with greyish bars between them; antemedial line indistinct, double, blackish, oblique, sinuous; medial line blackish faintly defined on inner side by grey, rather oblique to median nerve, then waved, a small black discoidal spot just beyond it; postmedial line blackish slightly defined on outer side by grey, rather oblique towards costa, then erect and waved; an indistinct double erenulate dark subterminal line, ending at tornus; a series of oblique black striae in the interspaces before termen to vein 2, defined on inner side by greyish. Hindwing very dark reddish brown; the cilia pure white except at base to below vein 7, then a sinuous black line before termen to the tail on which there is a small round deep chocolate-brown spot before its upper extremity, then deep chocolate-brown lunules before termen below veins 4 and 3. Underside dark reddish brown; forewing with two curved and slightly waved dark postmedial lines filled in with greyish from costa to below vein 4, the costal area beyond them greyish crossed by three faint waved dark

lines; hindwing with traces of a waved greyish postmedial line with minute whitish streaks before it on the veins and a faint double slightly waved dark subterminal line, the cilia white to below vein 7, then with some white scales.

**Ecuador**, Loja (Abbé Gaujon), 1 ♂ type in Coll. Joicey. *Exp.* 42 mill.

c. Hindwing with the tail very short and excised at extremity.

(19) \*† *Coronidia flavidorsata* n. sp.

♂. Head and thorax olive-yellow with a broad dark reddish brown stripe on outer parts of tegulae and patagia; antennae white, red-brown towards base and extremity; sides of frons dark brown; palpi ochreous white mixed with black-brown; abdomen ochreous white tinged with red-brown and with a dark red-brown dorsal streak; pectus and legs ochreous white tinged with red-brown. Forewing olive-yellow suffused with red-brown, the medial and postmedial areas dark red-brown; two oblique sinuous black subbasal lines, the outer defined on outer side by pure white, bent outwards on inner margin to the antemedial band and edged above and below by black; three sinuous black lines, excurved below costa, before the antemedial band, which has a small black spot at costa, its outer edge with a curved pure white line defined on outer edge by black and slightly dentate at median nervure and veins 2 and 1; a pure white medial line with an olive-yellow band tinged with rufous on its outer side, oblique to discal fold, then bent inwards to the antemedial band at median nervure, then oblique and slightly angled outwards above vein 1, enclosing a triangular black-brown patch between it and the antemedial band from costa to median nervure; the outer edge of the olive-yellow band with two black lines, angled inwards at vein 1 and with two small triangular black-brown spots beyond it on the costa; postmedial band with its inner half pure white, its outer half olive-yellow, its inner edge produced to slight white streaks on veins 4, 3, 2, 1, the band slightly excurved to vein 4, then incurved and ending at tornus, its outer edge defined by a black line followed by some striae and some small spots on costa; a white subterminal line defining the outer edge of the dark postmedial area which extends to beyond it at costa, sinuous to vein 5, then strongly dentate outwards at the veins and inwards below them; a series of black striae before termen, oblique below veins 5 and 4; a fine black terminal line; cilia dark brown. Hindwing greyish brown to the orange-scarlet postmedial band, with a diffused orange-scarlet band with some dark striae on it, oblique from beyond upper angle of cell to before the postmedial band at vein 4 and ending at vein 2; the broad postmedial orange-scarlet band defined on inner side by black-brown expanding at costa, oblique to vein 5, then incurved and ending at submedian fold, with two white striae on it at inner margin, its edges waved; the terminal area black-brown with the costa and termen to vein 6 orange-scarlet, the former interrupted by black striae, the termen below vein 6 whitish suffused with olive and brown and with a black terminal line, the tail with silvery white spot with plum-coloured centre defined by black on its upper part; purple ocelli defined by black and on outer side by silvery white before termen below veins 4 and 3; the cilia orange-yellow to vein 6, then orange-yellow at base with black line at middle and brown tips intersected with white at the veins. Underside orange-yellow tinged with red-brown; forewing

with elliptical black discoidal spot, the postmedial band yellow defined on each side by diffused black-brown except towards costa, the termen yellow; hindwing with faint slightly waved dark postmedial line, oblique to vein 4, then incurved, and traces of a double subterminal line formed by black striae and with some fiery rufous before it at inner margin.

♀. Hindwing with the orange-scarlet before the postmedial band reduced to a slight oblique shade from below vein 6 to vein 4, the underside strongly tinged with rufous and with numerous sinuous lines formed by black striae leaving a yellower postmedial band and the termen yellow to above vein 4.

**Colombia**, Bogatá (Child), 1 ♂ type in Coll. Rothschild; **Peru**, Carabaya, San Domingo (Ockenden), 1 ♀ in Coll. Rothschild, *Exp.* 56 mill.

(20) *Coronidia interlineata*.

† *Coronis interlineata* Wlk., i. p. 38 (1854) ♀; Butl., *Ill. Het. B.M.* i. p. 59. pl. 2. f. 1; Westw., *Trans. Zool. Soc.* x. p. 538. pl. 88. f. 8.

*Coronidia abbreviata* Maass., *Stübel's Reise*, p. 529 (1890) ♂.

**Guatemala, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru.**

(21) \*† *Coronidia monotona* n. sp.

♂. Head, thorax, and abdomen reddish brown mixed with some pale grey; antennae red-brown; frons with white lines at sides; palpi red-brown with white line near outer edge, the hair fringing the 2nd joint white mixed with dark brown; the tips of 3rd joint white; pectus with some white; legs red-brown, the tarsi ringed with white. Forewing red-brown slightly tinged with grey; a waved blackish subbasal line from costa to vein 1; three indistinct oblique sinuous dark antemedial lines faintly defined on outer side by whitish at costa; a narrow diffused blackish discoidal lunule; an indistinct diffused blackish postmedial line, waved to vein 4, then strongly incurved, followed by slight blackish and grey marks on the costa; the termen rather greyer to below vein 4, then with traces of a waved blackish line before termen to submedian fold; cilia with some white scales at the veins. Hindwing pale reddish brown to the postmedial band, then darker brown; the band orange-yellow, oblique and very slightly incurved to vein 5, then bent inwards, with slightly waved outer edge and ending at vein 2; cilia white to below vein 6 and at the upper extremity of the tail on which there is a small black spot; slight black lunules before termen below veins 4 and 3. Underside reddish brown tinged with grey; forewing with the inner half paler, a whitish postmedial band from costa to above vein 3 and diffused waved whitish subterminal line from vein 5 to above 2; hindwing with the yellow band as above but less distinctly defined.

**Peru**, Huaylas (Simons), 1 ♂ type in Coll. Rothschild. *Exp.* 60 mill.

(22) \*† *Coronidia aenophlebia* n. sp.

♂. Head and thorax dark brown mixed with purplish red and grey; antennae rufous ringed with black; palpi black and whitish, the 2nd joint rufous in front, the 3rd joint rufous irrorated with black at sides and white at tips; abdomen dark brown mixed with some rufous and grey; pectus, legs, and ventral surface of abdomen fulvous rufous, the femora and tibiae with some black above

and the tarsi with some black except towards base. Forewing deep purplish red, mixed with grey and the veins pale purple-red; two small black subbasal spots on costa and a double curved line from subcostal nervure to vein 1; three slightly curved and waved black antemedial lines; a black discoidal bar and three indistinct waved lines beyond the cell, arising from small spots on costa; a narrow slightly waved fulvous yellow postmedial band with a dark line through it, defined at sides by black lines, its inner side with a grey line before it defined on inner side by diffused black in the interspaces; the costa beyond the postmedial band fulvous yellow with small black spots on it; an obliquely curved and rather diffused black mark below costa with a greyish patch above it and two waved black lines from it to inner margin; an oblique black bar from apex, then a series of oblique sinuous black striae before termen to above vein 2; cilia black-brown with a fulvous yellow line at base and white points at tips at the veins. Hindwing deep red-brown, the terminal area suffused with black-brown to vein 5, then with purple-red and blue-grey mixed; a crenulate black line defined on inner side by whitish before termen from vein 7 to 2, more lunulate below vein 5; the cilia with some white at tips towards apex and the upper part of tail pure white at extremity. Underside of forewing grey-brown becoming black-brown before and beyond the postmedial band which is ochreous white, the costa and termen fulvous yellow, the former striated with black on postmedial area, a small black discoidal spot; hindwing fulvous orange, the inner area grey-brown to beyond middle, the terminal area striated with black, five waved black lines on medial area except on the grey-brown part, the 3rd and 5th slight, and four waved lines on terminal area, the 4th ill-defined, a narrow rather yellower band between the two sets of lines.

Ab. 1. Abdomen with large greyish-white patch at base; forewing with round greyish-white patch in end of cell and an elliptical postmedial patch above the curved black mark.

**Ecuador**, Sarayaen (Buckley), 1 ♂ in Coll. Joicey; **Peru**, Carabaya, San Domingo (Ockenden), 4 ♂ type in coll. Rothschild. *Exp.* 54-58 mill.

B. Forewing with the termen somewhat excised from apex to vein 6, where it is obtusely angled, and slightly crenulate; hindwing with the termen crenulate except towards apex, the tail represented by the termen being produced to points at veins 4, 3.

(23) \* *Coronidia ribbei*.

*Coronidia ribbei* Druce, *Biol. Centr. Am. Het.* ii. p. 8. pl. 41 f. 14 (1891) ♀.

**Panama**, 1 ♂, 2 ♀ in Coll. Joicey.

(24) \* *Coronidia insolita*.

*Homidia insolita* Strand, *Deutsch. Ent. Zeit.* 1911. p. 642 ♂.

**Hab. ign.**

GENUS *Lonchotura* nov.

Type *L. ocyllus*.

Proboscis fully developed; palpi with the 2nd joint upturned to<sup>7</sup>above vertex of head and fringed with hair in front and behind, the 3rd porrect, rather

long, and somewhat dilated at extremity; frons smooth; eyes large, round, hairy, overhung by long cilia; antennae with minute bristles, strongly dilated towards extremity; thorax clothed with hair only; tibiae all spined; abdomen smoothly scaled. Forewing with the apex produced, the termen obliquely curved and not crenulate; veins 3, 4 from angle of cell; 5 from above middle of discocellulars; 6, 7, 8, 9, 10 stalked, 9 slight; 11 from cell. Hindwing with the termen produced to a short pointed tail at vein 4; vein 2 from near angle of cell; 3, 4 from angle; 5 from above middle of discocellulars; 7 from just before upper angle; 8 approximated to the cell near base; frenulum present.

#### **Lonchotura ocyclus.**

*Coronidia ocyclus* Boisd., *Lep. Guat.* p. 76 (1870) ♀.

*Coronidia dutreuxii* Deyrolle, *Rev. Zool.* (3) ii. pl. 8. f. 3 (1874) ♀.

*Coronidia genevana* Westw., *Trans. Zool. Soc.* x. p. 539. pl. 88. f. 10 (1879) ♂.

**Mexico, Guatemala, Costa Rica.**

#### **GENUS Anurapteryx nov.**

Type, *A. beckeri*.

Proboscis fully developed; palpi with the 2nd joint upturned, fringed with long hair in front and short hair behind, the 3rd oblique, rather long and dilated at extremity; frons smooth; eyes large, round, hairy, and overhung by long cilia; antennae of female with minute bristles and strongly dilated towards extremity; thorax clothed with hair only; all the tibiae spined; abdomen smoothly scaled. Forewing with the apex not produced, the termen evenly curved and slightly crenulate; veins 3, 4 from angle of cell; 5 from above middle of discocellulars; 6, 7, 8, 9, 10 stalked; 9 slight; 11 from cell. Hindwing with the termen evenly curved; vein 2 from towards angle of cell; 3, 4 from angle; 5 from above middle of discocellulars; 7 from just before upper angle; 8 approximated to the cell near base only.

#### **Anurapteryx beckeri.**

† *Coronidia beckeri* Druce, *Biol. Centr. Am. Het.* ii. p. 525. pl. 98. f. 1 (1898) ♀.

**Mexico.**

Mr. J. McDunnough informs me that an undescribed allied species is found in **U.S.A.**, Arizona.

#### **FAMILY APOPROGENIDAE nov.**

Differs in the key from the *Euschemonidae*, in which the eyes are not overhung by long cilia and the forewing has all the veins from the cell, in having the eyes overhung by long cilia and the forewing with veins 7, 8, 9, 10 stalked. Its relationship is with the *Sematuridae* and *Uraniadae* and it consists solely of two genera.

Forewing with vein 6 stalked with 7, 8, 9, 10 . . . . .	<i>Pemphigostola</i>
Forewing with vein 6 from the cell . . . . .	<i>Apoprogenides</i>

GENUS *Pemphegostola*.

*Pemphegostola* Strand, *Deutsch. Ent. Zeit.* 1909. p. 663 . . . . . Type. *synemonistis*

Strand says that the forewing has vein 1, c, present, which is not the case in *Apoprogenes*; in that case it would fall by the key in the *Castniadae*, but its affinities seem to be here.

\* *Pemphegostola synemonistis*.

*Pemphegostola synemonistis* Strand, *Deutsch. Ent. Zeit.* 1909. p. 665.

**Madagascar.**

*Apoprogenes*.

*Apoprogenes* (sic) Hmps., *Trans. Ent. Soc.* 1903. p. 137 . . . . . Type. *hesperistis*  
*Oedimatopis* Prout, *Ann. Transvaal Mus.* v. p. 152 (1916) . . . . . *hesperistis*

*Apoprogenes hesperistis*.

† *Apoprojones hesperistis* Hmps., *Trans. Ent. Soc.* 1903. p. 137. fig.  
*Oedimatopis jansi* Prout, *Ann. Transvaal Mus.* v. p. 152. pl. xxv. f. 1 (1916).

**Transvaal, Zululand, Natal.**

FAMILY *TASCINIDAE*.

*Neocastnia* Hmps., *Trans. Ent. Soc.* 1895. p. 284.

*Neocastnia* Hmps. is a synonym of *Tascina* Westw.; the palpi reach to about the middle of the frons in the male, to well above vertex of head in the female; the hindwing has veins 4, 5 separate to the base from veins 2, 3.

GENUS *Tascina*.

*Tascina* Westw., *Trans. Soc. Zool.* (2) i. p. 198 (1877) . . . . . Type. *orientalis*  
*Neocastnia* Hmps., *Trans. Ent. Soc.* 1895. p. 285 . . . . . *nicevillei*

(1) *Tascina nicevillei*.

† *Neocastnia nicevillei* Hmps., *Trans. Ent. Soc.* 1895. p. 285. fig. ♀; id. *Moths Ind.* iv. p. 471.

**Burma, Tenasserim.**

(2) \* *Tascina metallica*.

*Tascina metallica* Pag., *Iris*, iii. p. 3 (1890).

The distinctions between the sexes are reversed in the description.  
**Borneo, Sarawak; Pulo Laut I.; Philippines, Palawan I.**

(3) \* *Tascina orientalis*.

† *Tascina orientalis* Westw., *Trans. Linn. Soc. Zool.* (2) i. p. 199. pl. 33. f. 5 (1877).

? **Singapore.** Specimens purchased in the mart at Singapore may have come from the mainland or any of the neighbouring islands.

FAMILY CHARIDEIDAE.

*Pompostolinae* Jord., *Entom.* xl. p. 125 (1907).

Differs in the key from the *Callimorphidae*, in having the antennae dilated towards extremity.

It is closely allied to and derived from the *Zygaenidae* of the typical sub-family from which it differs in both wings, having vein 1, c, absent.

KEY TO THE GENERA.

- A. Forewing with veins 7, 8 stalked.
  - a. Palpi with the 2nd joint very long and not fringed with hair; forewing with veins 4, 5 shortly stalked . . . . . *Amalthocera*
  - b. Palpi with the 2nd joint moderate and fringed with hair; forewing with veins 4, 5 from the cell . . . . . *Ninia*
  - c. Palpi extending about the length of head and clothed with rough hair . . . . . *Lamprochrysa*
- B. Forewing with all the veins from the cell.
  - a. Palpi porrect.
    - a<sup>1</sup>. Palpi extending about twice the length of head.
      - a<sup>2</sup>. Hindwing with the tornus truncate . . . . . *Toosa*
      - b<sup>2</sup>. Hindwing with the tornus not truncate . . . . . *Chariclea*
    - b<sup>1</sup>. Palpi extending about the length of head . . . . . *Netrocera*
  - b. Palpi upturned.
    - a<sup>1</sup>. Antennae dilated at extremity . . . . . *Arniocera*
    - b<sup>1</sup>. Antennae strongly dilated before extremity . . . . . *Trichobaptes*
    - e<sup>1</sup>. Antennae slightly dilated before extremity.
      - a<sup>2</sup>. Palpi with the 3rd joint short; abdomen with pair of long lateral anal tufts. . . . . *Dilophura*
      - b<sup>2</sup>. Palpi with the 3rd joint long; abdomen without lateral anal tufts . . . . . *Byblisia*

GENUS *Ninia*.

	Type.
<i>Ninia</i> Wlk., viii. 72 (1856) . . . . .	<i>plumipes</i>
<i>Cicinocnemis</i> Holl., <i>J.N.Y. Ent. Soc.</i> i. p. 181 (1894) . . . . .	<i>plumipes</i>

(1) \* *Ninia saphira*.

*Ninia saphira* Auriv. *Oefr. Vet. Akad. Forh.* 1900. p. 1055.

Congo.

(2) *Ninia plumipes*.

*Sphinx plumipes* Drury, *Exot. Ins.* iii. 3. p. 2 and *Ind.* pl. 2. f. 3 (1782); Oberth, *Ét. Lep. Comp.* xiv. p. 376. pl. 381. f. 3197.

† *Cicinocnemis cornuta* Holl., *J.N.Y. Ent. Soc.* i. p. 181 (1894).

Gold Coast, S. Nigeria, Cameroons, Gaboon.

GENUS *Toosa*

	Type.
<i>Toosa</i> Wlk., viii. 64 (1856) . . . . .	<i>glaucopiformis</i>

**Toosa glaucopiformis.**

† *Toosa glaucopiformis* Wlk., viii. 65 (1856).

**Zululand.**

**GENUS Lamprochrysa nov.**

Type, *L. triplex*.

Proboscis fully developed; palpi porrect, extending about the length of head and clothed with rough hair; frons smooth; eyes large, round; antennae strongly dilated towards extremity; head and thorax clothed with rough hair; hind tibiae of male with large tuft of long hair from base above; abdomen with slight lateral tufts of hair towards extremity. Forewing narrow, the apex rounded, the termen obliquely curved; vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8 strongly stalked; 9, 10, 11 from cell, 9 widely separated from 10, 11, which are approximated. Hindwing with veins 3 and 5 from near angle of cell; 6, 7 stalked; 8 connected with the cell by an oblique bar at middle.

**Lamprochrysa triplex.**

*Diospage triplex* Plotz, *Stett. Ent. Zeit.* xli. p. 79 (1880).

† *Diospage scintillans* Butl., *P.Z.S.* 1893. p. 675. pl. ix. ff. 12. 13.

**Cameroons, Uganda, Br. C. Africa, N. E. Rhodesia.**

**GENUS Charidea.**

*Charidea* Dalm., *Vet. Akad. Handl.* 1816. p. 225 . . . . . Type. *hypparchus*

(1) **Charidea hypparchus.**

*Sphinx hypparchus* Cram., *Pap. Exot.* iii. p. 7. pl. 197. f. C. (1779).

*Zygaena argynnis* Fabr., *Spec. Ins.* ii. p. 161 (1781).

**Sierra Leone, Gold Coast, S. Nigeria, Gaboon.**

(2) **Charidea semiaurata.**

† *Euchromia semiaurata* Wlk., i. 207 (1854).

**Sierra Leone, S. Nigeria, Gaboon, Congo.**

(3) **Charidea vicaria.**

† *Euchromia vicaria* Wlk., i. 207 (1854).

*Glaucopis pelidne* Mab., *Ann. Soc. Ent. Fr.* (6). x. p. 35 (1890).

**Sierra Leone, Gold Coast, Br. E. Africa, Uganda, Germ. E. Africa.**

(4) **Charidea smaragdina.**

† *Pompostola smaragdina* Butl., *P.Z.S.* 1888. p. 97.

**Uganda, Portuguese E. Africa.**

**GENUS Amalthocera.**

*Amalthocera* Boisd., *Spéc. Gén. Lép.* i. pl. 14. f. 8 (1836) . . . . . Type. *tiphys*  
*Callibaptes* Jord., *Entom.* xl. p. 126 (1907) . . . . . *tiphys*

The structural figure of the palpi given by Boisduval is sufficient definition of his genus for it to stand.

\* *Amalthocera tiphys*.*Amalthocera tiphys* Boisd., *Spéc. Gén. Lép.* i. pl. 14. f. 8 (1836).† *Callibaptus ornata* Jord., *Entom.* xl. p. 127 (1907).**Senegal, S. Nigeria.**GENUS *Netrocera*.

Type.

*Netrocera* Feld., *Reis. Nov.* p. 7 (1874) nondescr.; Jord., *Entom.* xl. p. 126 (1907)*setioides*(1) *Netrocera hemichrysa*.† *Pompostola hemichrysa* Hmps., *P.Z.S.* 1910. p. 489. pl. xl. f. 13.**Br. C. Africa, N. E. Rhodesia, Mozambique.**(2) \* *Netrocera diffinis*.† *Netrocera tiphys, diffinis* Jord., *Entom.* xl. p. 126 (1907).**Germ. E. Africa, Br. C. Africa.**(3) *Netrocera basalis*.† *Netrocera tiphys, basalis* Jord., *Entom.* xl. p. 126 (1907).**Angola, Br. E. Africa.**(4) *Netrocera setioides*.† *Netrocera setioides* Feld., *Reis. Nov.* p. 7. pl. 83. f. 5 (1874).**Sudan, Br. E. Africa, Uganda, Natal.**(5) *Netrocera ugandae*.† *Netrocera setioides, ugandae* Jord., *Entom.* xl. p. 126 (1907).**Uganda, Germ. E. Africa.**GENUS *Arniocera*.

Type.

*Arniocera* Hopff. *Monatsb. Akad. Berl.* 1857. p. 421 . . . . . *auriguttata**Arichalca* Wllgrn., *Vet. Akad. Forh.* xv. p. 137 (1858) . . . . . *auriguttata*(1) *Arniocera sternecci*.*Arichalca sternecki* Rogenh., Baumann's *Usambara*. p. 331 (1891).

An aberration has the spot before the middle of termen conjoined into a V-shaped mark.

**Germ. E. Africa.**(2) *Arniocera erythropyga*.*Arichalca erythropyga* Wllgrn., *Wien. Ent. Mon.* iv. p. 38 (1860).† *Zygaena negamica* Wlk., xxxi. 61 (1864).**Br. C. Africa, Mashonaland, Br. Bechuanaland, Mozambique, Transvaal.**(3) *Arniocera imperialis*.† *Arniocera imperialis* Butl., *P.Z.S.* 1898. p. 439. pl. 32. f. 6.*Arniocera imperialis* var. *taborensis* Strand, *Ent. Rundschau*, xxvi. p. 108 (1909).**Br. E. Africa, Germ. E. Africa.**

(4) *Arniocera amoena*.† *Arniocera amoena* Jord., *Entom.* xl. p. 126 (1907).† *Arniocera amoena* subsp. *virgata* Jord., *Nov. Zool.* xxii. p. 300 (1915) ab.† *Arniocera amoena* subsp. *angolana* Jord., *Nov. Zool.* xxii. p. 304 (1915) ab.**Angola, Br. E. Africa, Germ. E. Africa.**(5) *Arniocera ericata*.† *Arniocera ericata* Butl., *P.Z.S.* 1898. p. 439. pl. 32. f. 4.**Br. E. Africa.**(6) \* *Arniocera lautuscula*.*Arichalca lautuscula* Karsch., *Ent. Nachr.* xxiii. p. 367 (1897).**Germ. E. Africa.**(7) *Arniocera poecila*.† *Arniocera poecila* Jord., *Entom.* xl. p. 125 (1907).† *Arniocera cyanoxantha* ab. *angulifera* Jord., *Nov. Zool.* xxii. p. 299 (1915).**Br. E. Africa, Uganda.**(8) *Arniocera zambesina*.† *Zygaena zambesina* Wlk., xxxv. 1862 (1866).**Br. C. Africa, Mashonaland, Natal.**(9) *Arniocera septentrionalis*.*Arichalca elegans* var. *septentrionalis* Auriv., *Ark. f. Zool.* ii. 12. p. 43 (1905).† *Arniocera elegans* subsp. *barotzana* Jord., *Nov. Zool.* xxii. p. 298 (1915).**Cameroons, N. Rhodesia.**(10) *Arniocera cyanoxantha*.*Arniocera cyanoxantha* Mab., *Ann. Soc. Ent. Belg.* 1893. p. 57.*Arichalca elegans* Weym., *Iris*, 1903. p. 233. pl. 11. f. 7.**Abyssinia, Br. E. Africa, Uganda, Germ. E. Africa.**(11) *Arniocera chrysosticta*.† *Arniocera chrysosticta* Butl., *P.Z.S.* 1898. p. 439. pl. 32. f. 3.**Br. E. Africa.**(12) \* *Arniocera elata*.† *Arniocera elata* Jord., *Nov. Zool.* xxii. p. 298 (1911).**Germ. E. Africa.**(13) *Arniocera auriguttata*.*Arniocera auriguttata* Hopff., *Monatsb. Akad. Berl.* 1857. p. 421; id. *Peter's Reise Mozambique Zool.* v. p. 426. pl. 27. f. 13.*Arichalca melanopyga* Wllgn., *Wien. Ent. Mon.* iv. p. 38 (1860).**Mozambique, Transvaal, Cape Colony.**

(14) \* *Arniocera viridifasciata*.*Arichalca viridifasciata* Auriv., *Ent. Tidskr.* 1899. p. 247.**Cameroons.**(15) \* *Arniocera guttulosa*.† *Arniocera guttulosa* Jord., *Nov. Zool.* xxii. p. 298 (1911).**Abyssinia.**(16) *Arniocera chalcopasta*.† *Arniocera chalcopasta* Hmps., *P.Z.S.*, 1914. p. 489. pl. 40. f. 19.**N. E. Rhodesia.**GENUS *Trichobaptēs*.*Trichobaptēs* Holl., *J.N.Y. Ent. Soc.* i. p. 184 (1893) . . . . . Type.  
*auristrigata**Trichobaptēs auristrigata*.*Melittia auristrigata* Plotz., *Stett. Ent. Zeit.* xli. p. 77 (1880).† *Trichobaptēs sexstriata* Holl., *J.N.Y. Ent. Soc.* i. p. 104 (1893).**Sierra Leone, S. Nigeria, Gaboon, Uganda.**GENUS *Dilophura* nov.Type, *D. caudata*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint reaching to about middle of frons and with rough hair, the 3rd short and thickly scaled; frons smooth; eyes large, round; antennae moderately dilated towards extremity, almost simple; build slender; hind tibiae of male dilated with a fold containing a tuft of long hair above from base; abdomen long with pair of lateral pencils of long hair at extremity. Forewing very narrow, the apex rounded, the termen obliquely curved; vein 3 from before angle of cell; 5 from just above angle; 6, 7, 8 from upper angle; 9, 10, 11 from cell and widely separated from 8. Hindwing with vein 3 from well before angle of cell; 4, 5 from angle; 6, 7 stalked; 8 free.

*Dilophura caudata*.† *Byblisia caudata* Jord., *Entom.* xl. p. 127 (1907).**Germ. E. Africa, Br. E. Africa, N. E. Rhodesia, Mashonaland.**GENUS *Byblisia*.*Byblisia* Wlk., xxi. 107 (1864) . . . . . Type.  
*latipes*(1) \* *Byblisia ochracea*.† *Byblisia ochracea* Jord., *Entom.* xl. p. 127 (1907).**S. Nigeria.**

(2) *Byblisia latipes*.

† *Byblisia latipes* Wlk., xxxi. 107 (1864).

A form from S. Nigeria is without the black bands on the orange basal half of abdomen.

**Sierra Leone, S. Nigeria.**

(3) *Byblisia albapennis*.

*Byblisia albapennis* B. Baker, *A.M.N.H.* (8). vii. p. 575 (1911).

**Sierra Leone, S. Nigeria.**

(4) *Byblisia setipes*.

*Syntomis setipes* Plotz., *Stett. Ent. Zeit.* xli. p. 79 (1880).

**Gold Coast, Gaboon.**

LIST OF THE FAMILIES AND SUBFAMILIES OF THE *LEPIDOPTERA*.

The types of the genera are the first species in the author's original list, when he does not cite the type, which agrees with his generic description. The Family and Subfamily names are derived from the oldest generic name in the respective groups.

The names from Hübner's *Verzeichniss* should strictly be excluded as not binomial; his stirps are the genera and the subdivisions merely colour and pattern groups.

The names in brackets are those used by :

\* G. F. Hampson, *Catalogue of Moths* and other works.

† L. W. Rothschild and K. Jordan, *Revision of the Sphingidae*.

‡ D. Sharp, *Cambridge Natural History*.

§ J. H. Durrant, *Biologia Centrali-Americana* and other works, or tabulated from other authors.

Family.	Subfamily.	Genus.	Type.
1. AMATIDAE . . . . .		Amata Fabr. 1807 . . . . .	passalis
* ( <i>Syntomidae</i> )			
2. LITHOSIADAE . . . . .		Lithosia Fabr. 1798 . . . . .	quadra
* ( <i>Arctiadae</i> )			
" . . . . .	Nolinae . . . . .	Nola Leach, 1815 . . . . .	cuculatella
" . . . . .	Lithosianae . . . . .	Lithosia Fabr. 1798 . . . . .	quadra
" . . . . .	Arctianae . . . . .	Arctia Schrank, 1802 . . . . .	caja
3. PHALAEENOIDIDAE . . . . .		Phalaenoides McLeay, 1805 . . . . .	glycinae
* ( <i>Agaristidae</i> )			
4. NOCTUIDAE . . . . .		Noctua Linn. 1758 . . . . .	strix
" . . . . .	Agrotinae . . . . .	Agrotis Latr. 1818 . . . . .	rectangula
" . . . . .	Hadeninae . . . . .	Hadena Schrank, 1802 . . . . .	reticulata
" . . . . .	Cucullianae . . . . .	Cucullia Schrank, 1802 . . . . .	artemisiae
" . . . . .	Zenobianae . . . . .	Zenobia Oken. 1815 . . . . .	oo
" . . . . .	* ( <i>Acronyctinae</i> )		
" . . . . .	Erastrinae . . . . .	Erastria Treit. 1826 . . . . .	trabealis
" . . . . .	Phlogophorinae . . . . .	Phlogophora Treit. 1825 . . . . .	adulatrix
" . . . . .	* ( <i>Euteliinae</i> )		
" . . . . .	Odontodinae . . . . .	Odontodes Guen. 1852 . . . . .	aleuca
" . . . . .	* ( <i>Stictopterinae</i> )		

Family.	Subfamily.	Genus.	Type.
NOCTUIDAE	Sarothripinae	Sarothripus Curt. 1824 . . .	revayana
"	Vestermanninae	Vestermannia Hübn. 1827 . . .	superba
"	* (Acontinae)		
"	Catocalinae	Catocala Schrank, 1802 . . .	fraxinae
"	Diphtherinae	Diphthera Latr. 1818 . . .	ludifica
"	* (Mominiae)		
"	Phytometrinae	Phytometra Haw. 1809 . . .	festucae
"	Noctuinae	Noctua Linn. 1758 . . .	strix
"	Polypogoninae	Polypogon Schrank, 1802 . . .	barbalis
"	* (Hypeninae)		
"	Hyblaeinae	Hyblaea Fabr. 1794 . . .	puera
5. PTEROTHYSANIDAE		Pterothysanus Wlk. 1854 . . .	laticilia
6. LIPARIDAE <sup>1</sup>		Liparis Ochs. 1810 . . .	morio
* (Lymantriadae)			
7. EUCOCYTIIDAE		Eucocytia Roths. 1905 . . .	meeci
8. CALLIMORPHIDAE		Callimorpha Latr. 1809 . . .	hera
* (Hypsidae)			
9. SPHINGIDAE		Sphinx Linn. 1758 . . .	ligustri
"	Sphinginae	Sphinx Linn. (1758) . . .	ligustri
"	† (Acherontiinae)		
"	Smerinthinae	Smerinthus Latr. 1805 . . .	tiliae
"	† (Ambulacinae)		
"	Sesianae	Sesia Fabr. 1775 . . .	tantalus
"	Macroglossinae	Macroglossum Scop. 1777 . . .	stellatarum
"	† (Philampalinae)		
"	Celerianae	Celerio Oken. 1815 . . .	galii
"	† (Chaerocampinae)		
10. THYATRIDAE		Thyatira Treit. 1825 . . .	batis
* (Cymatophoridae)			
11. EUPTEROTIDAE		Eupterote Hübn. 1827 . . .	fabia
12. CERURIDAE		Cerura Schrank, 1802 . . .	milhauseri
* (Notodontidae)			
13. GEOMETRIDAE		Geometra Linn. 1758 . . .	lactearia
"	Urapteryginae	Urapteryx Leach, 1814 . . .	sambucaria
"	* (Boarmianae)		
"	Psychophorinae	Psychophora Kirby, 1821 . . .	sabini
"	* (Larentianae)		
"	Scopulinae	Scopula Schrank, 1802 . . .	ornata
"	* (Acidalianae)		
"	Geometrinae	Geometra Linn. 1758 . . .	lactearia
"	Aletinae	Aletis Hübn. 1827 . . .	helcita
"	* (Oenochrominae)		
"	Brephinae	Brephos Zinck. 1824 . . .	parthenias
14. DIOPTIDAE		Dioptis Hübn. 1827 . . .	cyma
15. ATTACIDAE		Attacus Linn. 1767 . . .	atlas
* (Saturniadae)			
16. BOMBYCIDAE		Bombyx Linn. 1758 . . .	mori
17. LEMONIADAE		Lemonia Hübn. 1827 . . .	taraxici
18. BRAHMAEIDAE		Brahmaea Wlk. 1855 . . .	certhia
19. SYSSPHINOIDAE		Syssphinx Hübn. 1827 . . .	molina
* (Ceratocampidae)			
20. SEMATURIDAE		Sematūra Guen. 1857 . . .	lunus
21. APOPROGENIDAE		Apoprogenes Hmps. 1903 . . .	hesperitis
22. URANIADAE		Urania Fabr. 1807 . . .	leilus
23. PSYCHIDAE		Psyche Schrank, 1802 . . .	unicolor
"	Psychinae	Psyche Schrank, 1802 . . .	unicolor
"	* (Oeceticinae)		

<sup>1</sup> *Liparis*, Artedi Pisces 1738, is pre-Linnean.

Family.	Subfamily.	Genus.	Type.
PSYCHIDAE	Leptopteryginae	Leptopteryx Hübn. 1827 . . .	hirsutella
	* ( <i>Psychinae</i> )		
„	Heccmeyerianae	Heccmeyeria Heyl. 1880 . . .	pronubella
	* ( <i>Psychoidinae</i> )		
„	Fumarianae	Fumaria Haw. 1812 . . .	pulla
	* ( <i>Canaphorinae</i> )		
24. EPICNOPTERYGOIDAE	. . . .	Epicnopteryx Hübn. 1827 . . .	pennella
	* ( <i>Heterogynidae</i> )		
25. TERAORIDAE	. . . .	Teragra Wlk. 1855 . . .	conspersa
	* ( <i>Arbelidae</i> )		
26. CHRYSOTYPIDAE	. . . .	Chrysotypus Butl. 1879 . . .	dives
	* ( <i>Argyrotypidae</i> )		
27. HYPOPTIDAE	. . . .	Hypopta Hübn. 1827 . . .	ambigua
	* ( <i>Ratardidae</i> )		
28. COSSIDAE	. . . .	Cossus Fabr. 1794 . . .	cossus
29. LASIOCAMPIDAE	. . . .	Lasiocampa Schrank, 1802 . . .	quercifolia
30. ENDROMIDAE	. . . .	Endromis Ochs. 1810 . . .	versicolor
31. ECTROPIDAE	. . . .	Ectropa Wlgrn. 1863 . . .	ancilis
	* ( <i>Chrysopolomidae</i> )		
32. PEROPHORIDAE	. . . .	Perophora Harris, 1841 . . .	melsheimeri
33. MEGALOPYGIDAE	. . . .	Megalopyge Hübn. 1827 . . .	lanata
34. HETEROGENEIDAE	. . . .	Heterogenea Knoch, 1783 . . .	asella
	* ( <i>Limacodidae</i> )		
35. ACRAGIDAE	. . . .	Acraga Wlk. 1855 . . .	ciliata
	* ( <i>Dalceridae</i> )		
36. TASCINIDAE	. . . .	Tascina Westw. 1877 . . .	orientalis
	* ( <i>Neacastniadae</i> )		
37. CASTNIIDAE	. . . .	Castnia Fabr. 1807 . . .	icarus
38. DANAIIDAE	. . . .	Danais Linn. 1758 . . .	anacardii
	* ( <i>Nymphalidae</i> )		
„	Euploeinae	Euploea Fabr. 1807 . . .	plexippus
	‡ ( <i>Danainae</i> )		
„	Ithomianae	Ithomia Hübn. 1827 . . .	dryma
„	Maniolinae	Maniola Schrank, 1891 . . .	galataea
	‡ ( <i>Satyrinae</i> )		
„	Arginae	Argus Scop. 1777 . . .	telemachus
	‡ ( <i>Morphinae</i> )		
„	Brassolinae	Brassolis Fabr. 1807 . . .	sophorae
„	Acraeinae	Acraea Fabr. 1807 . . .	horta
„	Euidinae	Euides Hübn. 1827 . . .	dianassa
	‡ ( <i>Heliconiinae</i> )		
„	Danainae	Danais Linn. 1758 . . .	anacardii
	‡ ( <i>Nymphalinae</i> )		
39. ASCIADAE	. . . .	Ascia Scop. 1777 . . .	crataegi
	‡ ( <i>Pieridae</i> )		
40. CUPIDINIDAE	. . . .	Cupido Schrank, 1801 . . .	viganreae
	‡ ( <i>Lycaenidae</i> )		
41. PLEBEJIDAE	. . . .	Plebejus Linn. 1758 . . .	cupido
	‡ ( <i>Erycinidae</i> )		
„	Plebejinae	Plebejus Linn. 1758 . . .	cupido
	‡ ( <i>Erycininae</i> )		
„	Libytheinae	Libythea Fabr. 1807 . . .	celtis
42. EQUITIDAE <sup>1</sup>	. . . .	Eques Linn. 1758 . . .	priamus
	‡ ( <i>Papilionidae</i> )		

<sup>1</sup> Linnaeus uses *Papilio* to mean "Butterfly" and *Phalaena* "moth," his subdivisions are the genera.

Family.	Subfamily.	Genus.	Type.
43. ERYNNIDAE . . . . .		Erynnis Schrank, 1801 . . . . .	malvae
‡ ( <i>Hesperidae</i> )			
44. EUSCHEMONIDAE . . . . .		Euschemon Doubl. 1846 . . . . .	rafflesiae
45. CHARIDEIDAE . . . . .		Charidea Dalm. 1816 . . . . .	hypparchus
46. ZYGAENIDAE . . . . .		Zygaena Fabr. 1775 . . . . .	filipendulae
"	Himantopterinae	Himantopterus Westm. 1836 . . . . .	fuscinervis
"	* ( <i>Phaudinae</i> )		
"	Zygaeninae . . . . .	Zygaena Fabr. 1775 . . . . .	filipendulae
"	Chalcosianae . . . . .	Chalcosia Hübn. 1827 . . . . .	pectinicornis
47. CALLIDULIDAE . . . . .		Callidula Hübn. 1827 . . . . .	evander
48. DREPANIDAE . . . . .		Drepana Schrank, 1802 . . . . .	cultraria
49. THYRIDIDAE . . . . .		Thyris Ochs. 1808 . . . . .	fenestrella
50. PYRALIDAE . . . . .		Pyralis Linn. 1758 . . . . .	farinalis
"	Tineinae . . . . .	Tinea Linn. 1758 . . . . .	sociella
"	* ( <i>Gallerianae</i> )		
"	Crambinae . . . . .	Crambus Fabr. 1798 . . . . .	margaritalis
"	Siginae . . . . .	Siga Hübn. 1827 . . . . .	liris
"	* ( <i>Schoenobianae</i> )		
"	Hypsotropinae . . . . .	Hypsotropa Zell. 1848 . . . . .	limbella
"	* ( <i>Anerastianae</i> )		
"	Anerastianae . . . . .	Anerastia Hübn. 1827 . . . . .	dignella
"	* ( <i>Phycitinae</i> )		
"	Pococerinae . . . . .	Pococera Zell. 1848 . . . . .	gibbella
"	* ( <i>Epipaschianae</i> )		
"	Semnianae . . . . .	Semnia Hübn. 1827 . . . . .	auritalis
"	* ( <i>Chrysauginae</i> )		
"	Endotrichinae . . . . .	Endotricha Zell. 1847 . . . . .	flammealis
"	Pyralinae . . . . .	Pyralis Linn. 1758 . . . . .	farinalis
"	Nymphulinae . . . . .	Nymphula Schrank, 1802 . . . . .	nymphbeata
"	* ( <i>Hydrocampinae</i> )		
"	Scopariinae . . . . .	Scoparia Haw. 1811 . . . . .	cembrae
"	Agroterinae . . . . .	Agrotera Schrank, 1802 . . . . .	nemeralis
"	* ( <i>Pyraustinae</i> )		
51. ORNEODIDAE . . . . .		Orneodes Latr. 1802 . . . . .	hexadaetyla
52. ALUCITIDAE . . . . .		Alucita Linn. 1758 . . . . .	monodaetyla
* ( <i>Pterophoridae</i> )			
53. MOMPIDAE <sup>1</sup> . . . . .		Mompha Hübn. 1827 . . . . .	conturbatella
* ( <i>Lavernidae</i> )			
54. HYPSOMOCOMIDAE . . . . .		Hypsomocoma Butl. 1881 . . . . .	blacburni
§ ( <i>Diplosaridae</i> )			
55. EPIMARPTIDAE . . . . .		Epimarptis Meyr. 1914 . . . . .	philocoma
56. PHYSOPTILIDAE . . . . .		Physoptila Meyr. 1914 . . . . .	scenica
57. METACHANDIDAE . . . . .		Metachanda Meyr. 1911 . . . . .	thaleropis
58. DICHOMERIDAE . . . . .		Dichomeris Hübn. 1827 . . . . .	ligula
§ ( <i>Gelechiidae</i> )			
59. UZUCHIDAE <sup>2</sup> . . . . .		Uzucha Wlk. 1864 . . . . .	humeralis
§ ( <i>Xyloryctidae</i> )			
60. OECOPHORIDAE <sup>3</sup> . . . . .		Oecophora Latr. 1802 . . . . .	bractella
61. ETHMIADAE . . . . .		Ethmia Hübn. 1827 . . . . .	aurifluella
62. BLASTOBASIDAE . . . . .		Blastobasis Zell. 1855 . . . . .	phycidella
63. STENOMIDAE . . . . .		Stenoma Zell. 1839 . . . . .	litura

<sup>1</sup> includes COSMOPTERYGIDAE . . . . . Cosmopteryx Hübn. 1827 . . . . . zieglereella

<sup>2</sup> *Cryptophag(s)a* McLeay 1805, type *irrorata* (nec *Cryptophagus* Herbs., Col. 1792) is the oldest name in the family.

<sup>3</sup> *Harpella* Schrank, type *forficella*, was published the same year, but it is believed that *Oecophora* has priority.

includes EPERMENIADAE . . . . . Epermenia Hübn. 1827 . . . . . pontificella

Family.	Subfamily.	Genus.	Type.
64. AEGERIADAE . . . . .		Aegeria Fabr. 1807 . . . . .	apiformis
* ( <i>Sesiadae</i> )			
65. TINAEGERIADAE . . . . .		Tinaegeria, Wlk. 1856 . . . . .	ocracea
66. SPARGANOETHIDAE . . . . .		Sparganothis Hübn. 1827 . . . . .	pilleriana
67. EUCOSMIDAE . . . . .		Eucosma Hübn. 1827 . . . . .	circulana
§ ( <i>Olethreutidae</i> )			
68. TORTRICIDAE . . . . .		Tortrix Linn. 1758 . . . . .	viridana
69. COMMOPHILIDAE . . . . .		Commophila Hübn. 1827 . . . . .	schreibersiana
§ ( <i>Phaloniadae</i> )			
70. CARPOSINIDAE . . . . .		Carposina Herr. Schäff 1853 . . . . .	berberidella
71. COPROMORPHIDAE . . . . .		Copromorpha Meyr. 1886 . . . . .	gypsota
72. CHLIDANOTIDAE . . . . .		Chlidanota Meyr. 1906 . . . . .	thriambis
73. SIMAETHIDAE <sup>1</sup> . . . . .		Simaethis Leach, 1815 . . . . .	fabriciana
§ ( <i>Hemerophilidae</i> )			
74. HAPLOPTILIDAE . . . . .		Haploptilia Hübn. 1827 . . . . .	coracipennella
§ ( <i>Coleophoridae</i> )			
75. HELIODINIDAE . . . . .		Heliodines Stainton, 1854 . . . . .	roesella
76. HYPSILOPHIDAE <sup>2</sup> . . . . .		Hypsi(o)lophus Fabr. 1798 . . . . .	cornutus
§ ( <i>Hypnomoeutidae</i> )			
77. CYCNOIDIADAE <sup>3</sup> . . . . .		Cylenodia Herr. Schäff. 1853 . . . . .	argentella
§ ( <i>Apheloseiidae</i> = <i>Elachistidae</i> auct.)			
78. AMPHITHERIDAE . . . . .		Amphithera Meyr. 1892 . . . . .	heteromorpha
79. EUCESTIDAE <sup>4</sup> . . . . .		Encestis Hübn. 1827 . . . . .	ulmifoliella
§ ( <i>Phyllorycteridae</i> )			
80. PLUTELLIDAE . . . . .		Plutella Schrank, 1802 . . . . .	maculipennis
81. PARATHYRIDAE . . . . .		Parathyris Hübn. 1827 . . . . .	perspicilla
§ ( <i>Arrhenophanidae</i> )			
82. PHYCIDAE <sup>5</sup> . . . . .		Phycis Fabr. 1798 . . . . .	boletella
§ ( <i>Tineidae</i> )			
83. STIGMELLIDAE <sup>6</sup> . . . . .		Stigmella Schrank, 1802 . . . . .	anomaella
84. LYONETIADAE <sup>7</sup> . . . . .		Lyonetia Hübn. 1827 . . . . .	clercella
<sup>1</sup> includes ATYCHIADAE . . . . .		Atychia Latr. 1809 (nec Ochs. 1808)	appendiculata
GLYPHIPTERYGIDAE . . . . .		Glyphyteryx Hübn. 1827 . . . . .	bergstraesserella
CHOREUTIDAE . . . . .		Choreutis Hübn. 1827 . . . . .	diana
<sup>2</sup> includes SCYTHRIDAE . . . . .		Scythris Hübn. 1827 . . . . .	chenopodiella
ARGYRESTHIADAE . . . . .		Argyresthia Hübn. 1827 . . . . .	goedartella
ACROLEPIADAE . . . . .		Acrolepia Curt. 1838 . . . . .	pygmaeana
<sup>3</sup> includes HELIOZELIDAE . . . . .		Heliozela Herr. Schäff. 1853 . . . . .	sericiella
DOUGLASIADAE . . . . .		Douglasia Staint. 1854 . . . . .	ocnerostomella
<i>Antispila</i> Hübn., <i>Verz.</i> 1827, may be the oldest name in this family when its type can be identified . . . . .			pagenstecherella
<sup>4</sup> includes LITHOCOLLETIDAE . . . . .		Lithocolletis Hübn. 1827 . . . . .	schrancella
GRACILARIADAE . . . . .		Gracilaria Haw. 1828 . . . . .	hemidactylella
ORTHOAELIADAE . . . . .		Orthoaelia Steph. 1834 . . . . .	sparganella
<sup>6</sup> includes TALAEPORIDAE . . . . .		Talaeporia Hübn. 1827 . . . . .	tubulosa
OCHSENHEIMERIADAE . . . . .		Ochsenheimeria Hübn. 1827 . . . . .	hubalella
INCURVARIADAE . . . . .		Incurvaria Haw. 1828 . . . . .	muscalella
LAMPRONIADAE . . . . .		Lampronia Steph. 1835 . . . . .	capitella
TISCHERIIDAE . . . . .		Tischeria Zell. 1839 . . . . .	complanella
LYPUSIDAE . . . . .		Lypusa Zell. 1852 . . . . .	maurella
SETOMORPHIDAE . . . . .		Setomorpha Zell. 1835 . . . . .	insectella
TICHOBIADAE . . . . .		Tichobia Herr. Schäff. 1853 = <i>Psychoides</i> Bruand, 1849 (nec <i>Psychoda</i> Latr. Dipt. 1796 and <i>Psychodes</i> Dum. Dipt. 1823)	verhuelleta
CRINOPTERYGIDAE . . . . .		Crinopteryx Peyer, 1871 . . . . .	familiella
PRODOXIDAE . . . . .		Prodoxus Riley, 1880 . . . . .	quinquepunctella
<sup>6</sup> includes NEPTICULIDAE . . . . .		Nepticula Heyd. 1843 . . . . .	aurella
<sup>7</sup> includes PHYLLOCNISTIDAE . . . . .		Phyllocnistis Zell. 1848 . . . . .	suffusella
BEDELLIADAE . . . . .		Bedellia Staint. 1849 . . . . .	somnulentella
ERECTHIADAE . . . . .		Erecthias Meyr. 1880 . . . . .	mystacinella
HIEROXYSTIDAE . . . . .		Hieroxestis Meyr. 1892 . . . . .	omoscopa

Family.	Subfamily.	Genus.	Type.
85. ACROLOPHIDAE . . . . .		Acrolophus Poey, 1832 . . . . .	vitella
86. NEMOPHORIDAE <sup>1</sup> . . . . .		Nemophora Hoffmannsegg, 1798 . . . . .	degeerella
87. HEPIALIDAE <sup>2</sup> . . . . .		Hepialus Fabr. 1775 . . . . .	humuli
88. ERIOCRANIADAE . . . . .		Eriocrania Zell. 1851 . . . . .	semipurpurella
89. ERIOCEPHALIDAE . . . . .		Eriocephala Curt. 1839 . . . . .	calthella
* ( <i>Micropterygidae</i> ) <sup>3</sup>			

<sup>1</sup> includes ADELIDAE . . . . . Adela Latr. 1796 . . . . . viridella  
<sup>2</sup> includes PROTOTHEORIDAE . . . . . Prototheora Meyr. 1917 . . . . . petrosema  
<sup>3</sup> *Micropteryx* Hübn., *Verz.* 1827, type *mucidella*, is either a *Nepticula* or *Elachista* (auct.).

KEY TO THE FAMILIES OF THE LEPIDOPTERA.

The key to the *Microlepidoptera*—families 53 to 85—by Mr. J. H. Durrant has been kindly prepared at my request. He wishes it to be clearly understood that it is merely tentative and doubtless capable of great improvement; the names of the families used by him are given in brackets in the list of the families.

- A. Hindwing with the cell emitting not more than 6 veins.
  - a. Antennae clubbed or dilated; frenulum absent.
    - a<sup>1</sup>. Forewing with two or more veins stalked or coincident.
      - a<sup>2</sup>. Forelegs of male useless for walking.
        - a<sup>3</sup>. Forelegs of female useless for walking. . . . . 38. *Danaidae*
        - b<sup>3</sup>. Forelegs of female well developed . . . . . 41. *Plebejidae*
      - b<sup>2</sup>. Forelegs of male well developed.
        - a<sup>3</sup>. Fore tarsi of male more or less abbreviated or with one or both claws absent . . . . . 40. *Cupidinidae*
        - b<sup>3</sup>. Fore tarsi of male not abbreviated, the claws developed.
          - a<sup>4</sup>. Hindwing with vein 1.a absent . . . . . 42. *Equitidae*
          - a<sup>4</sup>. Hindwing with vein 1.a present . . . . . 39. *Asciadae*
      - b<sup>1</sup>. Forewing with all the veins present and separate . . . . . 43. *Erynnidae*
  - b. Antennae not clubbed or dilated or frenulum present when clubbed or dilated.
    - a<sup>1</sup>. Hindwing with vein 1.c absent.
      - a<sup>2</sup>. Forewing with vein 5 from nearer 4 than 6.
        - a<sup>3</sup>. Hindwing with vein 8 aborted . . . . . 1. *Amatidae*
        - b<sup>3</sup>. Hindwing with vein 8 present.\*
          - a<sup>4</sup>. Hindwing with vein 8 remote from 7.
            - a<sup>5</sup>. Frenulum present.
              - a<sup>6</sup>. Hindwing with vein 8 anastomosing with the cell to near or beyond middle. . . . . 2. *Lithosiadae*
              - b<sup>6</sup>. Hindwing with vein 8 anastomosing with the cell near base only.
                - a<sup>7</sup>. Antennae with the shaft more or less dilated towards extremity . . . . . 3. *Phalaenoididae*
                - b<sup>7</sup>. Antennae with the shaft not dilated † . . . . . 4. *Noctuidae*
            - c<sup>6</sup>. Hindwing with vein 8 free or connected with the cell by a bar.
              - a<sup>7</sup>. Proboscis aborted.
                - a<sup>8</sup>. Antennae clubbed . . . . . 36. *Tascinidae*
                - b<sup>8</sup>. Antennae not clubbed . . . . . 6. *Liparidae*
              - b<sup>7</sup>. Proboscis fully developed.
                - a<sup>8</sup>. Antennae dilated towards extremity.
                  - a<sup>9</sup>. Eyes hairy; forewing with veins 7, 8, 9 stalked . . . . . 7. *Eucocytidae*
                  - b<sup>9</sup>. Eyes not hairy; forewing with all the veins from the cell or 7, 8 stalked . . . . . 45. *Chorideidae*

\* In some genera and species of the *Arctianae* allied to the *Amatidae* vein 8 is obsolete or aborted, and in a few others it is coincident with vein 7 to beyond the cell.  
 † Except in *Dahlia*.

- b<sup>3</sup>. Antennae not dilated towards extremity . . . . . 8. *Callimorphidae*
- b<sup>5</sup>. Frenulum absent.
- a<sup>6</sup>. Hindwing with vein 8 approximated to the cell at middle . . . . . 5. *Pterothysanidae*
- b<sup>6</sup>. Hindwing with vein 8 connected with the cell by a bar near base . . . . . 30. *Endromidae*
- b<sup>4</sup>. Hindwing with vein 8 curved and approximated to or anastomosing with vein 7, or connected with it by a bar.
- a<sup>5</sup>. Hindwing with a precostal spur to vein 8 . . . . . 47. *Callidulidae*
- b<sup>5</sup>. Hindwing with no precostal spur to vein 8.
- a<sup>6</sup>. Hindwing with vein 1.a absent or not reaching the tornus . . . . . 48. *Drepanidae*
- b<sup>6</sup>. Hindwing with vein 1.a reaching the tornus.
- a<sup>7</sup>. Frenulum present . . . . . 49. *Thyrididae*
- b<sup>7</sup>. Frenulum absent . . . . . 29. *Lasiocampidae*
- 2. Forewing with vein 5 from middle of discocellulars, or from nearer 6 than 5.
- a<sup>3</sup>. Antennae clubbed.
- a<sup>4</sup>. Forewing with veins 7, 8, 9, 10 stalked . . . . . 21. *Apoprogenidae*
- b<sup>4</sup>. Forewing with all the veins from the cell . . . . . 44. *Euschemonidae*
- b<sup>2</sup>. Antennae with the shaft filiform or fusiform.
- a<sup>4</sup>. Hindwing with vein 8 diverging from the cell from base.
- a<sup>5</sup>. Forewing with vein 7 connected with 8, 9.
- a<sup>6</sup>. Proboscis absent; tibiae without spurs . . . . . 15. *Attacidae*
- b<sup>6</sup>. Proboscis present; tibiae with spurs . . . . . 19. *Syssphingidae*
- b<sup>5</sup>. Forewing with vein 7 remote from 8, 9, usually stalked with 8 . . . . . 22. *Uraniidae*
- b<sup>4</sup>. Hindwing with vein 8 connected with or approximated to the cell or vein 7.
- a<sup>5</sup>. Hindwing with vein 8 remote from 7.
- a<sup>6</sup>. Forewing with vein 9 absent . . . . . 11. *Eupterotidae*
- b<sup>6</sup>. Forewing with vein 9 present.
- a<sup>7</sup>. Forewing with veins 7, 8 bent downwards towards apex . . . . . 16. *Bombycidae*
- b<sup>7</sup>. Forewing with veins 7, 8 not bent downwards towards apex.
- a<sup>8</sup>. Hindwing with vein 8 connected with the cell near middle; vein 5 obsolescent . . . . . 12. *Ceruridae*
- b<sup>8</sup>. Hindwing with vein 8 connected with the cell near base only, or vein 5 fully developed.
- a<sup>9</sup>. Antennae more or less dilated towards extremity; eyes hairy . . . . . 20. *Sematuridae*
- b<sup>9</sup>. Antennae not dilated towards extremity or the eyes not hairy in the few genera in which they are dilated.
- a<sup>10</sup>. Abdomen with the basal stigmata dilated into vesicles . . . . . 14. *Diopitidae*
- b<sup>10</sup>. Abdomen with the basal stigmata not dilated into vesicles . . . . . 13. *Geometridae*
- b<sup>3</sup>. Hindwing with vein 8 approximated to or anastomosing with vein 7.
- a<sup>6</sup>. Frenulum absent.
- a<sup>7</sup>. Proboscis absent . . . . . 17. *Lemoniadae*
- b<sup>7</sup>. Proboscis present . . . . . 18. *Brahmaeidae*
- b<sup>8</sup>. Frenulum present.
- a<sup>7</sup>. Hindwing with vein 8 connected with the cell by a bar near base . . . . . 9. *Sphingidae*
- b<sup>7</sup>. Hindwing with vein 8 not connected with the cell . . . . . 10. *Thyatiridae*

- b<sup>1</sup>. Hindwing with vein 1.c present.\*
  - a<sup>2</sup>. Wings divided into plumes.†
    - a<sup>3</sup>. Forewing divided into at most four plumes . . . . . 52. *Alucitidae*
    - b<sup>3</sup>. Forewing divided into six plumes . . . . . 51. *Orneodidae*
  - b<sup>2</sup>. Wings not divided into plumes.‡
    - a<sup>3</sup>. Hindwing with vein 8 anastomosing with or closely approximated to vein 7 . . . . . 50. *Pyralidae*
    - b<sup>3</sup>. Hindwing with vein 8 remote from 7.
      - a<sup>4</sup>. Hindwing with vein 8 coincident with the cell to middle or to near its extremity; palpi absent . . . . . 33. *Megalopygidae*
      - b<sup>4</sup>. Hindwing with vein 8 anastomosing with the cell; palpi present.
        - a<sup>5</sup>. Frenulum absent . . . . . 31. *Ectropidae*
        - b<sup>5</sup>. Frenulum present . . . . . 34. *Heterogeneidae*
    - c<sup>4</sup>. Hindwing with vein 8 free, or connected with the cell by a bar.
      - a<sup>5</sup>. Middle spurs of hind tibiae very short or absent.
      - a<sup>6</sup>. Proboscis absent.
        - a<sup>7</sup>. Forewing with vein 1.c absent.
          - a<sup>8</sup>. Frenulum absent.
            - a<sup>9</sup>. Forewing with vein 9 stalked or coincident with 8; larvae wood-borers . . . . . 25. *Teragridae*
            - b<sup>9</sup>. Forewing with vein 9 widely separated from 8; larvae case-dwellers . . . . . 32. *Perophidae*
          - b<sup>8</sup>. Frenulum present . . . . . 26. *Chrysotypidae*
        - b<sup>7</sup>. Forewing with vein 1.c present.
          - a<sup>8</sup>. Frenulum absent . . . . . 27. *Hypoptidae*
          - b<sup>8</sup>. Frenulum present.
            - a<sup>9</sup>. Female winged.
              - a<sup>10</sup>. Larvae wood-borers; abdomen extending to beyond the hindwing . . . . . 28. *Cossidae*
              - b<sup>10</sup>. Larvae not wood-borers; abdomen not extending to beyond the hindwing . . . . . 35. *Acragidae*
            - b<sup>9</sup>. Female wingless.
              - a<sup>10</sup>. Female and larvae case-dwellers . . . . . 23. *Psychidae*
              - b<sup>10</sup>. Female and larvae not case-dwellers . . . . . 24. *Epicnopterygidae*
  - b<sup>6</sup>. Proboscis present.
    - a<sup>7</sup>. Antennae clubbed; hindwing with vein 7 diverging from the cell from base . . . . . 37. *Castniidae*
    - b<sup>7</sup>. Antennae filiform or terminally dilated; hindwing with vein 8 approximated to the cell and connected with it by a bar . . . . . 46. *Zygaenidae*
- b<sup>5</sup>. Middle spurs of hind tibiae, or at least one, well developed.
  - a<sup>6</sup>. Palpi with the 1st joint as long or nearly as long as the 2nd (the male with the palpi more or less strongly recurved), those of female more or less strongly porrect. . . . . 85. *Acrolophidae*
  - b<sup>6</sup>. Palpi with the 1st joint much shorter than the 2nd joint.
    - a<sup>7</sup>. Antennae of both sexes bipectinate (more strongly in the female than the male); forewing with vein 7 separate, 8, 9 stalked and 10 absent or 9, 10 stalked and 8 separate . . . . . 81. *Parathyrididae*
    - b<sup>7</sup>. Antennae not bipectinate in both sexes, or if bipectinate in female the forewing with veins 7 to 10 separate.

\* Sometimes absent by asthenogenesis in some genera of the *Eucosmidae* and the leaf-mining *Microlepidoptera*.

† Except in *Agdistis*.

‡ Except in *Cenoloba* and *Oxychirota*.

- a<sup>8</sup>. Hindwing with vein 8 closely approximated to the cell and vein 7 throughout, often becoming coincident with 7 towards the apex.
- a<sup>9</sup>. Hindwing with vein 8 concealed in a fold, veins 3, 4 coincident, 5 from lower angle of cell or stalked with 3 . . . . . 64. *Aegeriadae*
- b<sup>9</sup>. Hindwing with vein 8 not concealed in a fold, veins 3, 4 not coincident, 5 separate . . . . . 65. *Tinaegeriadae*
- b<sup>8</sup>. Hindwing with vein 8 not closely approximated to the cell and vein 7 throughout.
- a<sup>9</sup>. Hind tibiae with more or less developed whorls of bristles or scales at the origin of spurs, the tarsi always with more or less developed bristles at the apex of joints, the hindlegs, in repose erected over back or projecting laterally; the palpi slender, acuminate at tip, usually long and excurved, often diverging, sometimes short and porrect . . . . . 75. *Heliodinidae*
- b<sup>9</sup>. Hind tibiae without whorls of bristles or scales at origin of spurs, the tarsi without bristles at the apex of the joints.
- a<sup>10</sup>. Palpi long, upcurved, the terminal joint acuminate at tip, usually acute (rudimentary in some *Blastobasidae*).
- a<sup>11</sup>. Forewing with veins 7, 8 separate . . . . . 63. *Stenomidae*
- b<sup>11</sup>. Forewing with veins 7, 8 stalked or coincident.
- a<sup>12</sup>. Hindwing with vein 8 connected with the cell by a bar.
- a<sup>13</sup>. Hindwing with vein 5 approximated to 6, veins 6, 7 separate and parallel . . . . . 61. *Ethmiidae*
- b<sup>13</sup>. Hindwing with vein 5 approximated to 4.
- a<sup>14</sup>. Hindwing with vein 6 absent.
- a<sup>15</sup>. Forewing with vein 6 absent, 7, 8 coincident . . . . . 56. *Physoptilidae*
- b<sup>15</sup>. Forewing with vein 6 present, 7, 8 coincident . . . . . 57. *Metachandidae*
- b<sup>14</sup>. Hindwing with vein 6 present; veins 6, 7 generally approximated or stalked, the termen usually sinuate or excised below apex.
- a<sup>15</sup>. Forewing with vein 2 approximated to 3\* . . . . . 58. *Dichomeridae*
- b<sup>15</sup>. Forewing with vein 2 remote from 3 . . . . . 59. *Uzuchidae*
- b<sup>12</sup>. Hindwing with vein 8 not connected with the cell by a bar.
- a<sup>13</sup>. Hindwing with veins 6, 7 separate and parallel, veins 2 to 4 not separate and parallel.
- a<sup>14</sup>. Forewing with costal stigma, veins 2 to 5 closely approximated, 4, 5 sometimes stalked; hindwing with veins 3, 4 stalked and 5 from a point or stalked with them, or 3, 4 coincident and stalked with 5, or 4, 5 stalked and 3 separate; the palpi rudimentary in the *Pigritia* group . . . . . 62. *Blastobasidae*

\* The approximation of veins 2 and 3 is not very constant in the *Dichomeridae*, but their remoteness is constant in the *Uzuchidae*.

- b<sup>14</sup>. Forewing without costal stigma, veins 2 to 5 not closely approximated; hindwing with veins 4, 5 separate . . . . . 60. *Oecophoridae*
- b<sup>13</sup>. Hindwing with veins 6, 7 not separate and parallel, veins 2 to 4 separate and parallel.
- a<sup>14</sup>. Forewing with vein 7 ending on termen; hindwing with vein 5 absent . . . . . 55. *Epimarptidae*
- b<sup>14</sup>. Forewing with vein 7 ending on the costa.
- a<sup>15</sup>. Hindwing with the costa evenly arched . . . . . 54. *Hyposmocomidæ*
- b<sup>15</sup>. Hindwing with more or less developed costal lobe towards or before one-third from base, accentuated by a projection of stiff scales, the remainder of costa nearly straight, the apex always acute . . . . . 53. *Momphidae*
- b<sup>10</sup>. Palpi with the 3rd joint not acuminate.
- a<sup>11</sup>. Palpi moderate or long, porrect or oblique, the 2nd joint with dense projecting or appressed scales, usually more or less triangular in form, the 3rd joint short or moderate, cylindrical, obtuse.
- a<sup>12</sup>. Forewing with vein 2 from beyond three-fourths of lower margin of cell.
- a<sup>13</sup>. Hindwing with vein 5 absent . . . . . 70. *Carposinidae*
- b<sup>13</sup>. Hindwing with vein 5 present.
- a<sup>14</sup>. Hindwing on upperside with the lower margin of cell fringed with setae . . . . . 71. *Copromorphidae*
- b<sup>14</sup>. Hindwing on upperside with the lower margin of cell not fringed with setae . . . . . 69. *Commophilidae*
- b<sup>12</sup>. Forewing with vein 2 from or from before three-fourths of lower margin of cell.
- a<sup>13</sup>. Forewing with veins 7, 8 stalked or coincident; hindwing on upperside with the lower margin of cell fringed, or not fringed with setae . . . . . 66. *Sparganothidae*
- b<sup>13</sup>. Forewing with veins 7, 8 separate.
- a<sup>14</sup>. Hindwing on upperside with the lower margin of cell fringed with setae . . . . . 67. *Eucosmidae*
- b<sup>14</sup>. Hindwing on upperside with the lower margin of cell not fringed with setae.
- a<sup>15</sup>. Forewing with veins 8, 9 stalked or coincident, vein 2 from two-thirds to three-fourths of lower margin of cell; hindwing with vein 5 parallel to 4 . . . . . 72. *Chlidanotidae*
- b<sup>15</sup>. Forewing with veins 8, 9 separate or rarely stalked, in which case the hindwing with vein 5 approximated to 4 at base . . . . . 68. *Tortricidae*
- b<sup>11</sup>. Palpi with the second joint not clothed with dense projecting or appressed scales; if

- triangular in shape, then formed by long hair scales.
- a<sup>12</sup>. Maxillary palpi three-jointed, filiform, often curved, seldom minute or rudimentary.
- a<sup>13</sup>. Hindwing lanceolate or linear; forewing with the upper margin of cell usually obsolete on basal third; vein 7 ending on costa; larvae with prolegs on somites 7 to 9, not on 10 . . . . . 79. *Eucestidae*
- a<sup>14</sup>. Hindwing trapezoidal-ovate or elongate-ovate; forewing with vein 7 ending on termen . . . . . 80. *Plutellidae*
- b<sup>12</sup>. Maxillary palpi not filiform, porrect.
- a<sup>13</sup>. Both wings with the cell open, veins 3 to 5 absent; maxillary palpi long, folded; head rough; antennae with eye-cap . . . . . 83. *Stigmellidae*
- b<sup>13</sup>. Cell not open in both wings; veins 3 to 5 not all absent.
- a<sup>14</sup>. Forewing with the apex bent up or downwards; maxillary palpi usually long, folded; antennae often with eye-cap; head usually tufted above, sometimes smooth . . . . . 84. *Lyonetiidae*
- b<sup>14</sup>. Forewing with the apex not bent up or downwards.
- a<sup>15</sup>. Hindwing broader than the forewing, trapezoidal, the apex pointed, the termen strongly sinuate, the tornus prominent, veins 5 to 7 nearly parallel; forewing with veins 7 to 8 stalked or coincident, ending on costa; head densely rough-haired above; antennae much longer than the forewing, with basal pecten; eyes sometimes completely divided longitudinally . . . . . 78. *Amphitheridae*
- b<sup>15</sup>. Hindwing ovate-triangular, elongate ovate, or lanceolate, rarely trapezoidal
- a<sup>16</sup>. Antennae once to four times length of forewing, usually much longer and rarely only once the length; hindwing with veins 3 to 4 usually separate, 6 often stalked with veins 5 or 7; maxillary palpi five-jointed, three-jointed, or rudimentary . . . . . 86. *Nemophoridae*
- b<sup>16</sup>. Antennae rarely longer than the forewing.
- a<sup>17</sup>. Head usually rough; maxillary palpi often long, folded; palpi porrect or upturned, more or less obtuse; forewing with vein 7 ending on the costa; hindwing with veins 2 to 4

- usually widely separated; 5, 6 sometimes stalked, 7 separate . . . . . 82. *Phycidae*
- b<sup>17</sup>. Head with appressed scales or smooth; maxillary palpi rudimentary or absent.
- a<sup>18</sup>. Palpi usually curved, upturned, the third joint often transversely appressed, pointed, or obtuse; hindwing broadly ovate-triangular to trapezoidal, seldom lanceolate, the lower margin of cell on upperside not fringed with setae; forewing elongate or subtriangular, often moderately broad \* . . . . . 73. *Simaethidae*
- b<sup>18</sup>. Palpi bent, ascending, acuminate, at tip, with the scales of second joint somewhat angularly projecting beneath at apex; forewing with vein 5 absent, 7, 8 coincident, ending on costa; hindwing lanceolate . . . . . 74. *Haploptiliidae*
- c<sup>18</sup>. Palpi moderate, ascending; forewing with costal stigma, vein 7 ending on the termen; head with appressed scales or rough on vertex . . . . . 76. *Hypsilophidae*
- d<sup>18</sup>. Palpi moderate, curved, acuminate at tip; antennae with pecten on basal joint; forewing with veins 7, 8 stalked or coincident, ending on costa, 6 arising from 7; hindwing lanceolate; veins 2 to 4 nearly parallel, 6, 7 stalked, often with an extra vein arising from 7 towards costa, 8 free . . . . . 77. *Cynodiidae*
- B. Hindwing with the cell emitting more than six veins.†
- a. Maxillary palpi and tibial spurs absent . . . . . 87. *Hepialidae*
- b. Maxillary palpi and tibial spurs well developed.
- a<sup>1</sup>. Biting mandibles not present . . . . . 88. *Eriocraniidae*
- b<sup>1</sup>. Biting mandibles present . . . . . 89. *Eriocephalidae*

\* In cases of difficulty of determination between *Simaethidae* and *Eucosmidae* the following may be useful:

*Eucosmidae*. Hindwing on upperside with the lower margin of cell fringed with setae; forewing with the vein in the cell to between veins 4, 5 (the upper fork obsolete).

*Simaethidae*. Hindwing on upperside with the lower margin of cell not fringed with setae; forewing with the vein in the cell to between veins 5, 6 (the lower fork obsolete).

† In a few *Microlepidoptera* the cell emits more than 6 veins.